

DOCKET NO. D-98-55-3

DELAWARE RIVER BASIN COMMISSION

Special Protection Waters

**Green-Waltz Water Company/
Nestle Waters North America Inc.
Ground Water Withdrawal**

Washington Township, Northampton County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted by Nestle Waters North America Inc. (NWNA) for an allocation of ground water and review of a ground water withdrawal project co-owned by Nestle Waters North America Inc. and Green-Waltz Water Company (NWNA/GWWC). The Pennsylvania Department of Environmental Protection (PADEP) issued a draft permit on September 11, 2006 (Permit No. 4806501), pending approval by the Delaware River Basin Commission (DRBC or Commission).

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact*. The Lehigh Valley Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on September 27, 2006.

A. DESCRIPTION

1. **Purpose.** The purpose of this project is to supply up to 4.8 mg/30 days of water for bulk water supply to the docket holder's bottling plant from new Spring Water Borehole No. B-2 and to increase the total allocation from 11.7 mg/30 days to 16.5 mg/30 days.
2. **Location.** The project boreholes are located in the Waltz Creek Watershed. Spring water Borehole No. B-2 is constructed as a bedrock source, completed in the Martinsburg Formation. Spring water Borehole No. B-1 is screened in the unconsolidated deposits overlying the Martinsburg Formation.

Specific location information has been withheld for security reasons.

3. **Area Served.** The docket holder conveys all water withdrawals from Borehole Nos. B-1 and B-2 to the NWNA Breinigsville bottling facility located in Upper Macungie Township, Lehigh County, Pennsylvania. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in the Decision section of this docket.

4. **Physical features.**

a. **Design criteria.** Spring water is pumped from Borehole Nos. B-1 and B-2 and diverted to a loadout facility on Rt. 512, and transported to the Nwana bottling facility. Green-Waltz Water Company, Inc. (GWWC) sold its interests in waters from the spring sources located on the subject property, and Nwana has assumed responsibility for the operation and maintenance of the withdrawals from Borehole Nos. B-1 and B-2. GWWC remains a co-owner of the site and facilities and Nwana has assumed the role of operator of the subject facilities. Nwana recently upgraded the Green Waltz spring site, including relocation of the load facility to a recently purchased property directly accessible to Rt. 512, to reduce tanker traffic into and out of the actual spring site.

b. **Facilities.** The existing project boreholes have the following characteristics:

BOREHOLE NO.	DEPTH	CASED DEPTH/ CASING DIAMETER	PUMP CAPACITY	YEAR DRILLED	FORMATION
B-1	75'	64.5'/8"	360 gpm	2003	Unconsolidated deposits overlying Martinsburg
B-2	62'	51.4'/8"	180 gpm	2004	Martinsburg

All borehole sources are metered.

The project facilities are above the 100-year flood elevation.

The water system is not presently interconnected with any other distribution system.

c. **Cost.** The overall cost of this project is estimated to be \$200,000.

B. FINDINGS

On January 19, 2005 and September 26, 2005, the DRBC approved interim amendments to its *Water Quality Regulations* that provide increased protection for downstream waters that the Commission classifies as Special Protection Waters. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for Special Protection Waters designation.

Article 3.10.3A.2.e.1). and 2). of the *Water Quality Regulations, Administrative Manual - Part III*, states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan that controls the new or increased non-point source loads generated within the portion of the docket holder's withdrawal facilities which is also located within the drainage area of Special Protection Waters. The boreholes providing water supply to NWNNA are located within in the drainage area to the Special Protection Waters. Since this project does not entail expansion of the existing service area and continues to provide bottled water for distribution (i.e., there aren't any new or increased non-point source loads associated with this approval), the non-point source pollution control plan requirement is not applicable at this time. Accordingly, Special Condition II.u. has been included in the Decision section of this docket.

The project is designed to conform to the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

Withdrawals from the NWNNA/Green Waltz facility were originally authorized under DRBC Docket No. D-98-55, approved June 23, 1999, and issued to Green Waltz Water Company, which permitted an average daily withdrawal from production borehole W-1 of up to 390,000 gallons per day measured as a consecutive 30 day average (gpd/30 days). On January 25, 2005 the DRBC approved the transfer of the docket approval from Green Waltz Water Company to NWNNA and Green Waltz Water Company as co-owners, and approved the replacement of the original spring-water production borehole, W-1, with production Borehole No. B-1, which then served as the primary production borehole (Docket No. D-98-55-2). NWNNA is proposing an additional 160,000 gpd withdrawal (4.8 mg/30 days) from a new spring-water production Borehole No. B-2.

In order to evaluate the long term yield of Borehole No. 2, a constant-rate pumping test was performed. The pumping test was started on November 9, 2004 at an initial rate of 117 gpm (± 1 gpm). On November 11, 2004, the pumping rate was decreased to 112 gpm (± 1 gpm), where it remained into November 13, one day longer than the planned duration of the pumping phase of the test. The pumping period was extended to insure stabilization relative to the change in pumping rate and potential recharge associated with a moderate storm event that occurred on November 12. B-2 was pumped for a total of 96 hours and 55 minutes at an average rate of 114 gpm.

To assess the long-term performance of Borehole No. B-2, water-level trends observed during the pumping phase of the test were extrapolated over a period of 180 days under a no-recharge scenario. A semi-logarithmic plot of water-level data shows that at the end of the 180-day period, pumping water levels in B-2 remain well above the main water-producing fracture that was intercepted at 57 feet below ground surface: at discharge rates of 117 and 112 gpm, the corresponding water levels at 180 days are projected to be 54.5 and 53.5 feet below ground

surface, respectively. The pumping test was conducted during one of the driest and most stable portions of what was a generally wet year. Regional streamflow and water-level data indicate the testing period to be fairly representative of typical low-flow periods.

During all phases of the pumping test (ambient, constant-rate, and recovery), an extensive array of ground-water and surface-water stations were monitored. The ground-water monitoring network included all wells and boreholes at the facility, and eight recently installed piezometers in nearby wetlands. No impact from the pumping of B-2 was observed in the wetland monitoring points. The surface-water monitoring network included Back Spring and four gaging stations in Greenwalk Creek, which flows through the facility. In addition to the on-site production wells, an on-site bedrock well, used for domestic purposes, was also monitored. This well is cased off through the confined surficial aquifer and is completed as an open, six-inch-diameter borehole in the underlying Martinsburg slate.

The pumping of Borehole No. B-2 at an average rate of 114 gpm impacted all on-site wells and boreholes by approximately 1 foot, causing between 0.94 and 1.15 feet of drawdown. As noted by NWN's consultant, at all points of monitoring, the maximum potential impact to flow in Greenwalk Creek represents less than 4% of the observed baseflow. As a result of the pumping test and in light of the conditions and terms of this docket, no significant adverse impacts to either ground water or surface water resources are expected based on pumping of Borehole Nos. B-1 and B-2.

Several local homeowners have expressed concern regarding the increased withdrawal and the potential impact to their wells. Among the monitoring wells observed during the pumping test, maximum drawdown was 1.15 feet. Water level trends observed during the pumping test were extrapolated over 180 days with an assumption of no recharge, as noted in the hydrologist's report submitted by Nestle. Results indicate that at the end of the 180 day period, pumping water levels remain above the main water bearing fracture intercepted at 57 feet. Therefore, the evidence suggests that there will be minimal potential for impact to nearby residential wells. Furthermore, the docket holder will conduct a ground water monitoring program in accordance with Condition I.f of this docket which includes a sentinel well located between Borehole No. B-2 and Delabole Road. However, any complaint of interference must be reported by the docket holder to the Commission, investigated and resolved as directed by the Executive Director in accordance with Condition II.s of this docket.

By letter dated August 29, 2006, the Pennsylvania Fish and Boat Commission (PFBC), has indicated that a run of the Pennsylvania Maryland In-stream Flow Model (PMIFM) yielded a passby flow of 1.05 cubic feet per second (cfs) at the downstream monitoring location while limiting mean annual habitat loss to 10%, which is PFBC's threshold for Class B wild trout streams. In a PMIFM analysis, the natural and proposed alterations in the hydrology of a stream for which a withdrawal is proposed are compared to other streams in the same Physiographic

Region that was studied in development of the PMIFM. Habitat versus flow analyses for these streams is used to predict habitat changes for the stream for which the permit is proposed. Passby flows are required to protect against the potential of such losses. The PFBC and the DRBC have assumed a one-to-one impact of the withdrawal to the stream in the immediate area of the withdrawal.

The docket holder is required to ensure that the project does not cause the stream flow of Greenwalk Creek to be less than 1.05 cubic feet per second (cfs) (equivalent to 0.679 mgd) as measured at the monitoring location provided for in the attached Operation and Monitoring (O&M) Plan. Whenever the daily average stream flow as measured at this monitoring point is less than or equal to 1.05 cfs the docket holder must either cease withdrawals from Boreholes Nos. B-1 and B-2 or augment the stream flow to Greenwalk Creek by diverting water from Boreholes Nos. B-1 and B-2 to maintain the passby flow of 1.05 cfs. The amount of water used to augment the stream flow in Greenwalk Creek to maintain the passby flow is considered part of the maximum withdrawal limits established in Condition II.d. in the Decision section of this docket.

In addition to the establishment of a stream flow monitoring station on Greenwalk Creek downstream of the point of taking, the docket holder is required to conduct a ground and surface water monitoring program in accordance with that contained in the O&M Plan.

The DRBC estimates that the project withdrawals, used for the purpose of bottled water supply, result in a consumptive use of 100 percent of the total water use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

C. DECISION

I. Effective on the approval date for Docket No. D-98-55-3 below: Dockets Nos. D-98-55 and D-98-55-2 are terminated and replaced by Docket No. D-98-55-3.

II. The project and appurtenant facilities as described in the Section entitled “Physical features” above are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's. The docket holder shall register with the PADEP all surface and ground water sources described in this docket in accordance with the Pennsylvania Water Resources Planning Act (Pennsylvania Act 220).

b. The boreholes, loadout facility and operational records shall be available at all times for inspection by the DRBC.

c. The boreholes shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

d. During any 30-day period, the withdrawal from Spring Borehole No. B-1 shall not exceed 11.7 million gallons, the withdrawal from Spring Borehole No. B-2 shall not exceed 4.8 million gallons, and the combined withdrawal from both sources shall not exceed 16.5 million gallons.

e. The docket holder is required to ensure that the project does not cause the daily average stream flow of Greenwalk Creek to be less than 1.05 cubic feet per second (cfs) (equivalent to 0.695 mgd) as measured at the monitoring location in the attached Operation and Monitoring Plan. Whenever the daily average stream flow as measured at this monitoring point is less than or equal to 1.05 cfs the docket holder must either cease withdrawals from Boreholes Nos. B-1 and B-2 or augment the stream flow by diverting water from Boreholes Nos. B-1 and B-2 to maintain the passby flow of 1.05 cfs. The amount of water used to augment the stream flow in Greenwalk Creek to maintain the passby flow is considered part of the maximum withdrawal limit established in Condition I.d. in the Decision section of this docket.

f. The docket holder will comply with the attached Operation and Monitoring Plan (O&M). The O&M Plan includes specific monitoring points, data collection and monitoring requirements. The O&M Plan requires the establishment of a monitoring station to monitor stream flows in Greenwalk Creek below the point of taking. No withdrawal from Borehole No. B-2 is permitted until the monitoring station is established, calibrated and functioning. No less than seven working days prior to initiating withdrawals from Borehole No. B-2, the docket holder will advise in writing the Executive Director, the PA Fish and Boat Commission and the PADEP that the monitoring station is operational.

g. The Operation & Monitoring Plan required by Condition II.f shall include installation by the docket holder of an additional sentinel monitoring well (for a total of three sentinel wells) to be located in the vicinity of Delabole Road within the residential community southeast of the project site, provided that the docket holder is afforded access by residents to a suitable location for installing and monitoring such a well. The docket holder shall advise the Executive Director of the status of the well within 60 days of issuance of this docket.

h. The Executive Director may modify the O&M Plan if the results indicate that a change is required or appropriate. The Executive Director will notify the parties listed on the Interested Parties List for this docket of any approved changes to the O&M Plan.

i. All monitoring data, including records required in Conditions "f." and "k" herein shall be submitted to the Commission annually. Such data and records, covering operations in each calendar year, shall be submitted to the Commission by March 31 of the following year. The docket holder is encouraged to submit the annual report electronically to the Commission. The report shall be prepared by a hydrogeologist and shall assess the effects of well withdrawals on hydrologic conditions in the area. This report shall include an evaluation of the monitoring data required by this docket approval and such information as deemed appropriate by the hydrogeologist or required by the Executive Director.

j. The boreholes shall be equipped with readily accessible capped ports and drop pipes so that water levels may be measured under all conditions.

k. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of daily withdrawals shall be maintained, and monthly totals shall be reported to the PADEP annually and shall be available at any time to the Commission if requested by the Executive Director. Copies of the annual monitoring report, required by Condition "i", will be provided to Washington Township at the same time it is provided to the Commission. Copies of the annual withdrawal data report, required by Condition "j", will be provided to Washington Township at the same time it is provided to the PADEP. Monthly withdrawal data will be available and provided to Washington Township upon request by a member of the Board of Supervisors.

l. The docket holder shall implement a continuous program to encourage water conservation in all types of use within its facilities. The docket holder will report to the DRBC on the actions taken pursuant to this program and the impact of those actions as requested by the DRBC.

m. The docket holder shall comply with any Water Conservation Plan as required by PADEP, and shall report to the PADEP on actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

n. Sound practices of excavation, backfill and reseedling shall be followed to minimize erosion and deposition of sediment in streams.

o. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

p. The docket holder is permitted to provide the water approved in this docket to the bottling facility as described in Section A.3. Area Served of this docket. Conveyance to any other bottling facility is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.

q. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

r. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

s. If the operation of this project significantly affects or interferes with any domestic or other existing wells or surface water supplies, or if the docket holder receives a complaint by any user of wells or surface water supplies, the docket holder shall immediately notify the Executive Director of any complaints by users of wells or surface water supplies, and unless excused by the Executive Director, shall investigate such complaints. The docket holder should direct its phone call notifications of potential well or surface water interference or complaints of interference to the DRBC Project Review Branch at 609-883-9500, extension 216. Oral notification must always be followed up in writing directed to the Executive Director. In addition, the docket holder shall provide written notification to all complainants of the docket holder's responsibilities under this condition. The written notification will include information for them to contact DRBC directly should they choose to do so. Any well or surface water supply which is substantially adversely affected, or rendered dry or otherwise unusable as a result of the docket holder's project withdrawal, shall be expeditiously repaired, replaced or otherwise mitigated at the expense of the docket holder. A report of investigation and/or mitigation plan prepared by a hydrologist shall be submitted to the Executive Director as soon as practicable. The Executive Director shall make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate

mitigation measures, if required. The Executive Director may modify or suspend this approval, or require mitigating measures, pending additional review.

t. For the duration of any drought emergency declared by either Pennsylvania or the Commission, water service or use by the docket holder pursuant to this approval shall be subject to the prohibition of those nonessential uses specified by the Governor of Pennsylvania, the Pennsylvania Emergency Management Council, PADEP, or the Commonwealth Drought Coordinator to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

u. Prior to expanding or modifying the existing withdrawal facilities or the surrounding site, the docket holder shall either submit and have approved by the Executive Director of the DRBC a Non-Point Source Pollution Control Plan (NPSP) in accordance with Section 3.10.3.A.2.e, or receive written confirmation from the Executive Director of the DRBC that the expanded facility area is in compliance with a DRBC approved NPSP.

v. The docket holder and any other person aggrieved by a reviewable action or decision taken by the Executive Director or Commission pursuant to this docket may seek an administrative hearing pursuant to Articles 5 and 6 of the Commission's *Rules of Practice and Procedure*, and after exhausting all administrative remedies may seek judicial review pursuant to Article 6, section 2.6.10 of the *Rules of Practice and Procedure* and section 15.1(p) of the Commission's *Compact*.

BY THE COMMISSION

APPROVAL DATE: September 27, 2006

EXPIRATION DATE: September 27, 2016

**NESTLÉ WATERS NORTH AMERICA INC.
OPERATION PLAN FOR
GREEN WALTZ FACILITY
WASHINGTON TOWNSHIP, NORTHAMPTON COUNTY, PENNSYLVANIA**

The following Operation Plan has been prepared in anticipation of the requirements for Docket No. D-98-55-3 (the Docket) of the Delaware River Basin Commission (DRBC), currently scheduled for hearing on September 27, 2006. The referenced Docket is for an approval of a spring-water withdrawal from Borehole B-2 of up to 160,000 gallons per day (gpd) averaged over a 30-consecutive-day period (gpd/30). Withdrawals from B-2 will be utilized in conjunction with the approved withdrawals from Borehole B-1 (up to 390,000 gpd/30) to supply a total of up to 550,000 gpd/30 from the Green Waltz Facility. Spring water from the facility will continue to be conveyed via tanker truck to the Nestlé Waters North America Inc. (NWNA) bottling plant in Breinigsville, Pennsylvania.

PROJECT BACKGROUND

NWNA operates the Green Waltz Facility in cooperation with the Green Walk Trout Hatchery, Inc. (Hatchery). Spring water at the Green Waltz Facility is collected by NWNA from spring-water boreholes that tap into a confined surficial aquifer that underlies nearby portions of Greenwalk Creek. Those withdrawals are conveyed through a buried pipeline to a loadout station on State Route 512 for transportation to NWNA's bottling facility for processing, packaging, and distribution.

Components of the Operations Plan have been developed through consultation with the DRBC, the Pennsylvania Fish and Boat Commission (PFBC) and Washington Township officials. That plan has three basic monitoring elements: on-site wells; off-site wells; and Greenwalk Creek. The proposed Operations Plan for the Green Waltz Facility is described below. This Operations Plan may be revised as required following the Docket hearing on September 27, 2006.

MONITORING PLAN AND COMPLIANCE VERIFICATION

The monitoring plan has been developed as an integral part of the proposed operational practices at the Green Waltz Facility. The principal objectives of the monitoring plan are to develop and maintain a hydrologic database for the spring-water resource and stream discharge, and to evaluate the data in a timely fashion to refine the conceptual hydrogeological model of the site and mitigate the potential for adverse environmental impacts.

The monitoring plan is structured to collect data on streamflow, precipitation, on-site pumping rates, and water levels in on-site and off-site wells on an ongoing basis. Furthermore, the aquatic biological evaluation of Greenwalk Creek will continue to be conducted semiannually to further monitor conditions relating to the biological communities. Data will be compiled into an annual monitoring report that will be submitted to the DRBC, the Pennsylvania Department of Environmental Protection (PADEP), and the PFBC. A copy of that report will be provided to the Washington Township Board of Supervisors (Township). Descriptions of the individual components of the monitoring plan are as follows.

- **Withdrawal Monitoring:** The spring-water boreholes are outfitted with electro-magnetic flow sensors that are capable of monitoring withdrawals to within 0.25%. Withdrawals are recorded on a daily basis and will be reported as monthly totals to the PADEP Bureau of Watershed Conservation on an annual basis in accordance with *Condition 1.j* of the Docket. In addition, 30-day moving-average withdrawals will be reported to the DRBC Project

Review Branch on an annual basis. Copies of withdrawal reporting submittals to both agencies will be provided to the Township. Currently NWNA monitors withdrawals at the off-site loadout station, with total daily withdrawals representing the volume loaded into tankers on each day. Within three months of Docket approval, NWNA will convert the facility to automatically record the total daily pumping rate from the two individual boreholes at the on-site pumping station. Paper records of withdrawals will continue to be maintained at the tanker loadout station. In addition to spring-water withdrawals by NWNA, the Hatchery operates three stream augmentation wells that discharge on an as-needed basis directly into Greenwalk Creek. These wells are outfitted with flow meters that are capable of monitoring flows to within 5%. NWNA will record pumping data for the three Hatchery sources on a monthly basis. The Hatchery is responsible for maintaining and reporting their pumping data in conjunction with their Docket (D-2006-8-1).

- **Water-Level Monitoring:** The on-site wells and boreholes will be monitored on a monthly basis. This includes the two production boreholes (B-1 and B-2), the three Hatchery augmentation sources (Hatchery, Back Woods, and Blue Wells), and the on-site domestic bedrock well that supplies a single family dwelling. In addition, NWNA will outfit two off-site bedrock wells (S-1 and S-2) with recording pressure transducers that will be programmed to record water levels on a daily basis. These wells are idle domestic sources located on properties recently acquired by NWNA as part of their watershed protection program. The locations of S-1 and S-2 are shown in Figure 1. Manual readings of water levels in the off-site wells will be recorded on a monthly basis. In the event of equipment malfunction (data-logger failure) those monthly readings will serve as the primary off-site data source until replacement units can be installed. Water-level data will be reported to the DRBC Project Review Branch and the PADEP on an annual basis.
- **Surface-Water Monitoring:** Within three months of Docket approval NWNA will install a permanent flow measuring station (flume or weir) within Greenwalk Creek at the Hatchery facility located below Delabole Road (Figure 1). That device will be designed to accurately and reliably measure streamflow to insure compliance with the 1.05 cfs passby-flow requirement in accordance with *Condition 1.e* of the Docket. That station will be instrumented with an automated water-level monitoring device that will be programmed to record data every six hours. Those stage readings will be converted to daily average discharge data, which will be reported to the DRBC Project Review Branch, the PADEP, and the PFBC on an annual basis. If withdrawals from Borehole B-2 are initiated prior to the design and construction of the permanent station, an appropriate temporary station will be installed in the interim. No withdrawals from Borehole B-2 will be made prior to the establishment of a reliable flow monitoring station in accordance with *Condition 1.f* of the Docket. NWNA will notify the DRBC, the PFBC, and the PADEP in writing that the station (permanent or interim) is operational seven or more days prior to the commencement of withdrawals from Borehole B-2.
- NWNA will manage withdrawals from the spring-water boreholes in accordance with *Condition 1.d* of the Docket. During any 30-consecutive-day period, the total withdrawals from B-1 shall not exceed 11.7 million gallons, and the total withdrawal from B-2 shall not exceed 4.8 million gallons. The combined total withdrawal from the two boreholes shall not exceed 16.5 million gallons during any 30-consecutive-day period.
- **Meteorological Measurements:** A recording rain gage will be located adjacent to the borehole pumping station within 30-days of Docket approval. Precipitation recorded at this station will be reported as daily totals.

- **Biological Evaluation:** The ongoing biological monitoring of Greenwalk Creek shall be conducted in accordance with the scope conducted for the “*Instream Biomonitoring For Greenwalk Creek: 2005-2006 Summary Report*”. The biological evaluation will include estimations of biomass for selected fish species per unit length and unit area for the monitored stream reach. The fish survey will be conducted concurrently, twice annually, and will be compared to existing baseline studies to evaluate for any changes within Greenwalk Creek over time.

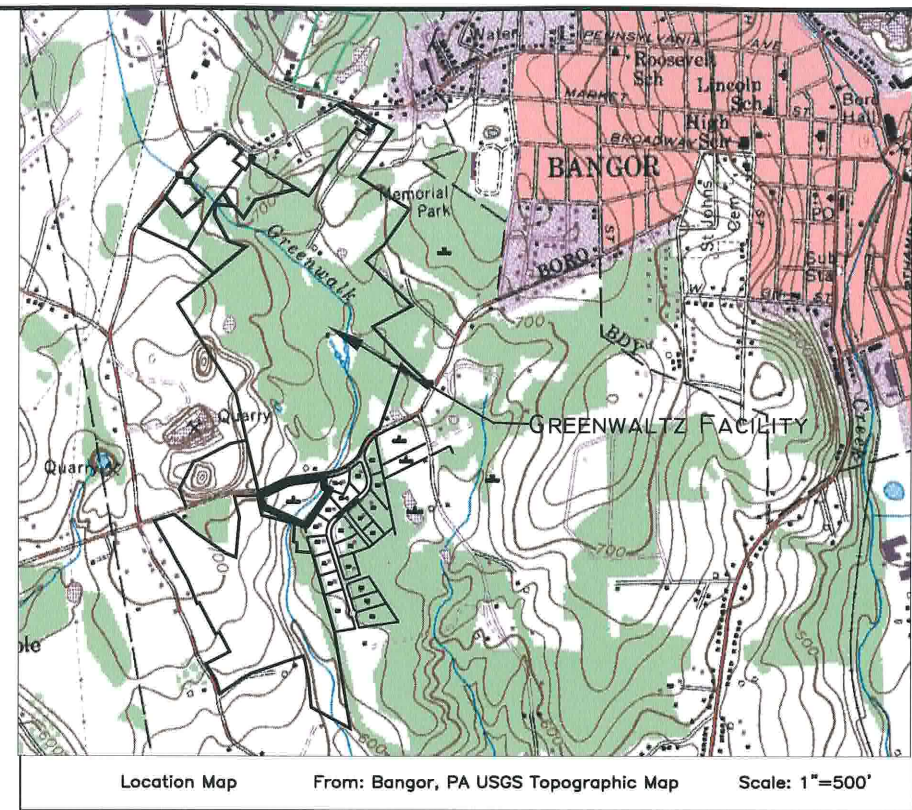
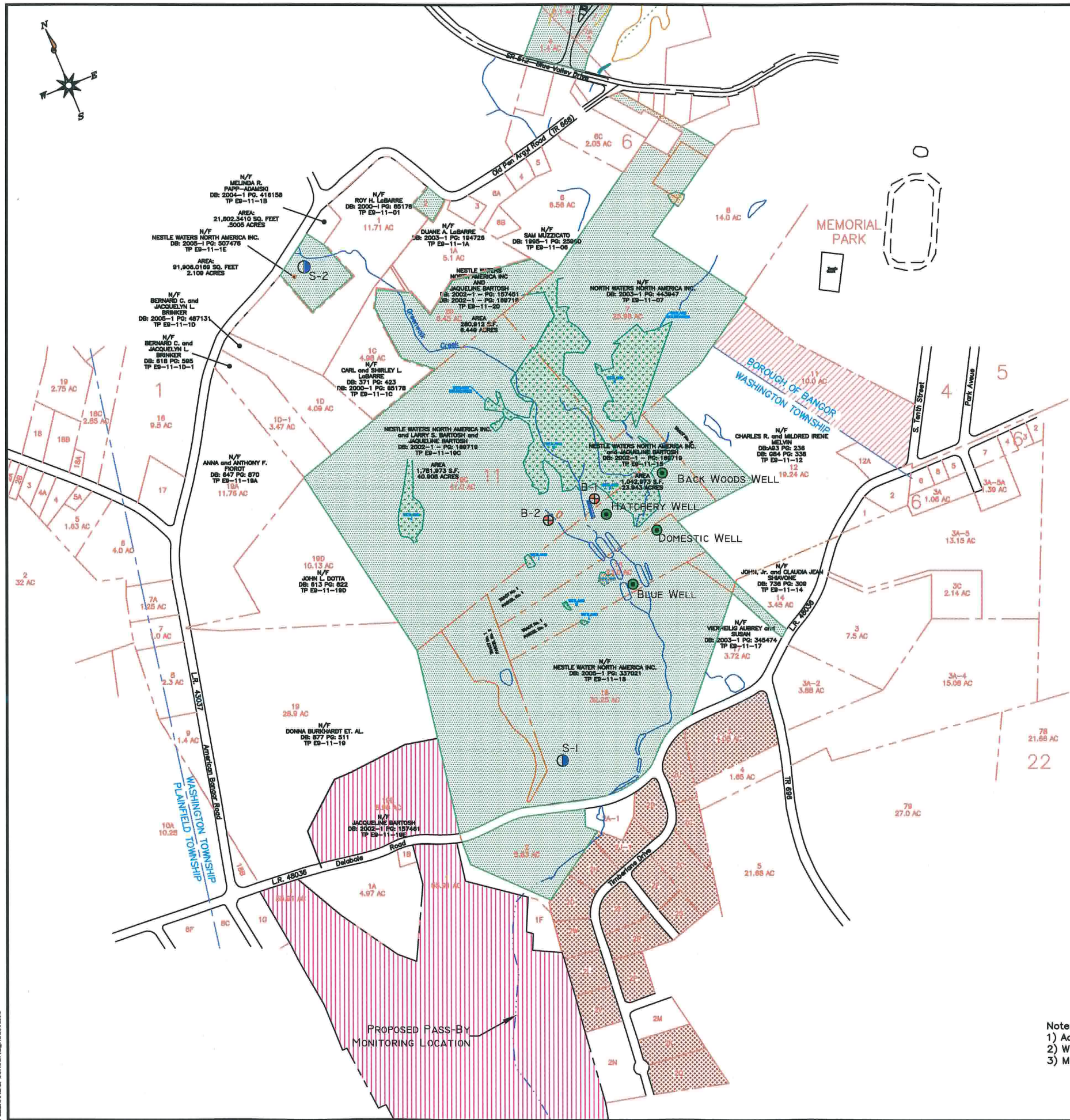
MEASUREMENT AND MAINTENANCE OF PASSBY FLOW

The Docket requires that a daily-average passby flow of 1.05 cfs be maintained in Greenwalk Creek at the Hatchery property located below Delabole Road. Streamflow will be measured at the above referenced permanent station, which shall be installed within 3-months of Docket approval. The station will be outfitted with a stilling well for the placement of a recording pressure transducer. The data logger will be programmed to record data every six hours, and those data will be converted to daily average discharge data for reporting and passby-flow compliance monitoring.

The station will be checked on a weekly basis, either through direct observation or through remote data acquisition via telemetry. When the flow measured at the passby-flow monitoring point approaches the threshold value of 1.25 cfs, the station will be checked on a daily basis to insure compliance with the 1.05 cfs passby-flow requirement. Under certain conditions it may become necessary to direct spring water from the boreholes to Greenwalk Creek to maintain a daily-average flow of 1.05 cfs or greater. Augmentation of Greenwalk Creek via production boreholes will be applied against source allocation limits outlined in *Condition 1.d* of the Docket. If increased spring-water augmentation is inadequate to maintain the passby flow of 1.05 cfs, withdrawals of spring water from the Green Waltz Facility will cease until the minimum acceptable passby flow can be restored.

PROPOSED MONITORING FREQUENCY, EVALUATION, AND REPORTING OF DATA

Data will be collected and reported at the aforementioned frequencies. The automated data-collection devices will be downloaded on a quarterly basis. Biological monitoring will take place twice a year with the actual timing of surveys (one low-flow survey and one high-flow survey) depending upon background hydrologic conditions. The data will be compiled and presented on an annual basis in a report submitted to the DRBC, the PADEP, and the PFBC by the end of March of the following calendar year. In addition, monthly total withdrawals will be reported to the Bureau of Watershed Conservation (PADEP) on an annual basis. Copies of both reports will be provided to the Township. At anytime needed or requested, Nwana will grant the DRBC, the PADEP, the PFBC and the Washington Township Board of Supervisors full access to the facility springs and existing operational records.



EXPLANATION

- Stream / Pond Edge
 - Stream (Approximate Location)
 - Property owned fully or partially by Nestle Waters North America Inc.
 - Bartosh and Hatchery Property
 - Bangor Borough Conservation Easement
 - Residences on Petition
 - Wetlands
 - Green Walk Trout Hatchery Wells
 - NWNA Boreholes
 - Sentinel Wells
- 0 200 400 600
SCALE: FEET

Notes:
1) Adapted from drawing provided by Forino Company, L.P.
2) Well locations are approximate.
3) Map intended for reference purposes only.

DESIGNED BY	DATE	DESCRIPTION	BY
X			
FORINO COLP.			
MODIFIED BY			
ANP			
APPROVED BY			
X			

ENSR
171 Daniel Webster Highway
Belmont, New Hampshire, 03220
Phone: 603-324-8866
FAX: 603-324-8866
WEB: HTTP://WWW.ENSRCOM

FIGURE 1 OPERATIONS PLAN GREEN WALTZ FACILITY NESTLE WATERS NORTH AMERICA INC. BREITENBURG, PA	DATE: September 2006	PROJECT NUMBER: 10146-019
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DRAWING NUMBER
SHEET NUMBER